

Low Cost Phased Array Antenna System, Phase I

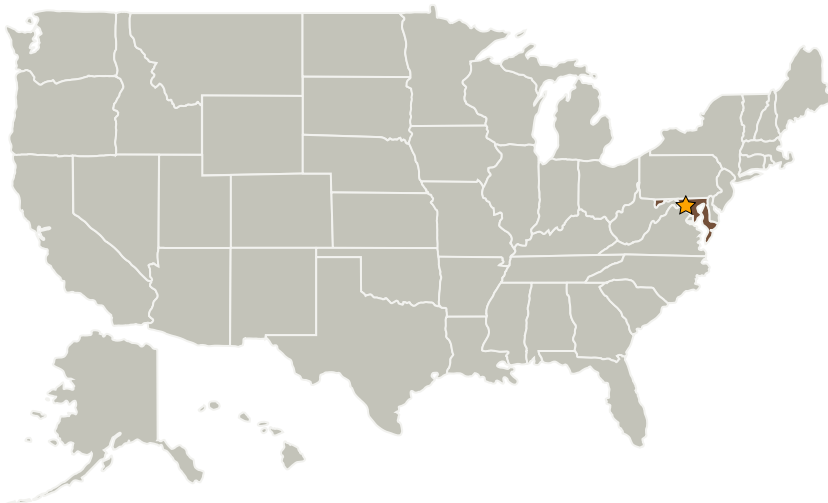
Completed Technology Project (2004 - 2004)



Project Introduction

A program is proposed to research the applicability of a unique phased array technology, dubbed FlexScan, to S-band and Ku-band communications links between stratospheric balloons and TDRSS satellites. If successful, FlexScan phased array technology will provide high antenna gain with a narrow beam that can be steered up to 60° off broadside from a planar, low cost, low profile package. Compared to fixed, broad-beam antennas, this can be translated to increased communication range, higher data rate, reduced weight, and reduced power consumption. Concept feasibility will be assessed by modeling, prediction of array performance, and the fabrication and test of breadboard demonstration hardware for critical technology components.

Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
★ Goddard Space Flight Center (GSFC)	Lead Organization	NASA Center	Greenbelt, Maryland
JEM Engineering LLC	Supporting Organization	Industry	Laurel, Maryland



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Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Center / Facility:

Goddard Space Flight Center (GSFC)

Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

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Primary U.S. Work Locations

Maryland

Project Management

Program Director:

Jason L Kessler

Program Manager:

Carlos Torrez

Principal Investigator:

James Lilly

Technology Areas

Primary:

- TX05 Communications, Navigation, and Orbital Debris Tracking and Characterization Systems
 - └ TX05.2 Radio Frequency
 - └ TX05.2.6 Innovative Antennas